

Survival of female Tanner crabs, *Chionoecetes bairdi*, tagged with Floy Tags

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Floy dart tags were tested for their utility in long term tagging studies. Specific questions addressed were: Do the tags stay in place? Do they cause injury or mortality to the crabs?

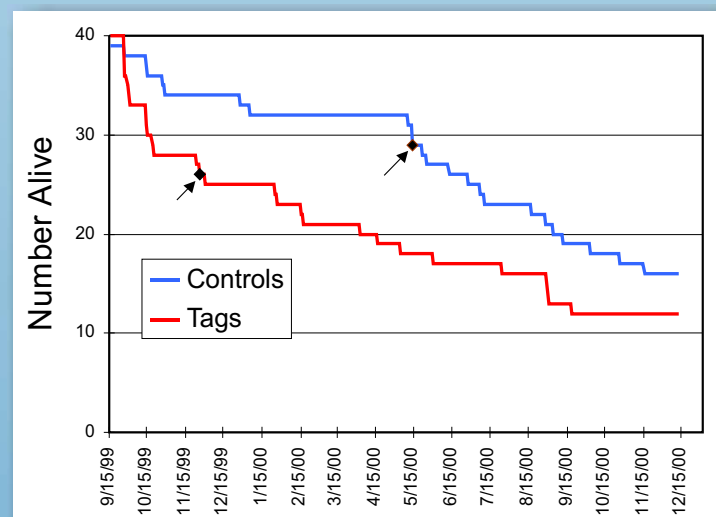
Fig. 1A. 40 crabs were tagged with numbered Floy tags inserted into the epimeral line (Tagged Crabs).



Fig. 1B. 39 crabs were tagged with a Peterson disk tag on a leg band around the fourth right pereiopod (Control Crabs).

Each group of crabs was held in two separate tanks until April 2000, when they were redistributed haphazardly.

Fig. 2. Mortality of tagged crabs was highest during the month after tagging. Mortality of both groups increased in late August 2000, when water temperatures exceeded 12.0° C (Fig. 3). Arrows indicate median survival dates (by which 50% of total mortalities occurred) on 11/26/99 (72 days) for Floy-tagged crabs and 5/15/00 (244 days) for leg-banded (control) crabs.



Methods:

Female Tanner crabs, *C. bairdi*, were collected by trawl on 3 April 1999. Crabs were held in 600 gal tanks, and fed chopped squid twice weekly. The experiment began on 15 September, 1999. Crabs were checked daily; dead crabs were dissected and examined for injuries and abnormalities. Water temperature was recorded at 2-hr intervals by an electronic data logger.



Fig. 1C. Floy tags often penetrated the hepatopancreas or ovary, causing a necrotic melanized knot around the tag anchor. Such injuries were never seen in control crabs. No Floy tags were lost, but leg bands were occasionally lost due to autotomy.

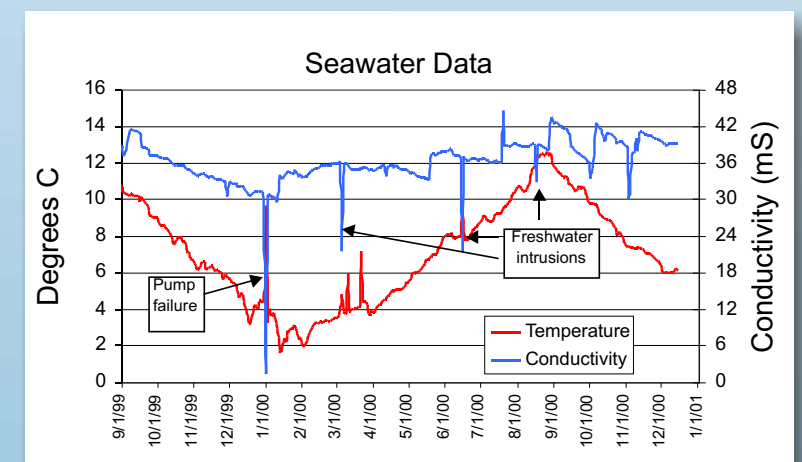


Fig. 3. Temperatures ranged from 1.8 to 12.6° C during the experiment. Water flow was interrupted due to pump failure on 1 January 2000, and fresh water intrusion caused decreased conductivity on three occasions (12 April 2000, 16 June 2000, and 17 August 2000). However, only one control crab died in association with these events (17 Aug.).

Table 1. Data were analyzed with the SPSS procedure Survival. Survival times were compared between the Floy-Tagged and Leg-banded crabs at weekly intervals using Gehan's generalized Wilcoxon test (a non-parametric test employing ranks). **Floy-tagged crabs had a significantly shorter median survival time.**

Group	Died	Total	Mean Score	Median Survival	Test Statistic	P
Leg-Banded	23	39	9.8947	244	4.405	0.036
Floy-Tagged	28	40	-6.963	72		



Poster design by
Wendy Carlson
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Conclusions:

Floy dart tags demonstrated 100% retention, but **caused significantly higher mortality** (shorter median survival) than observed in control (leg banded) crabs. The location of insertion caused damage to internal organs. Better survival might be achieved by placing the tags into coxal musculature.